=> FILE REG
FILE 'REGISTRY' ENTERED AT 15:10:05 ON 07 SEP 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 6 SEP 2006 HIGHEST RN 905963-91-9
DICTIONARY FILE UPDATES: 6 SEP 2006 HIGHEST RN 905963-91-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 15:10:13 ON 07 SEP 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 7 Sep 2006 VOL 145 ISS 11
FILE LAST UPDATED: 6 Sep 2006 (20060906/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE L20
L3 1 SEA FILE=REGISTRY ABB=ON 96-48-0 butyrolactone
L4 1 SEA FILE=REGISTRY ABB=ON 25322-68-3
L5 16610 SEA FILE=HCAPLUS ABB=ON L3 OR BUTYROLACTONE
L6 92299 SEA FILE=HCAPLUS ABB=ON L4
L7 366 SEA FILE=HCAPLUS ABB=ON L5 AND (L6 OR POLYETHYLENE OXIDE)
L8 156 SEA FILE=HCAPLUS ABB=ON L7 AND ELECTROLYTE#
L9 8 SEA FILE=HCAPLUS ABB=ON L8 AND VISCOS?
L12 36490 SEA FILE=HCAPLUS ABB=ON POLYOXYALKYLENE/IT

```
L15       46625 SEA FILE=HCAPLUS ABB=ON  POLYOXYETHYLENE
L18         206 SEA FILE=HCAPLUS ABB=ON  L5 AND (L12 OR L15)
L19           3 SEA FILE=HCAPLUS ABB=ON  L18 AND ELECTROLYTE# AND VISCOS?
L20          10 SEA FILE=HCAPLUS ABB=ON  L9 OR L19
```

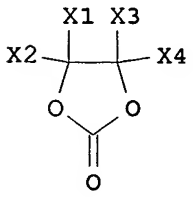
10 CA references mentioning viscosity

```
=> D L20 1-10 BIB ABS IND HITSTR
```

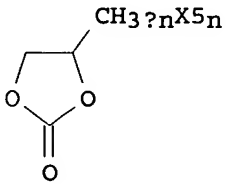
L20 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:794168 HCAPLUS
TI Gel **electrolytes** for secondary lithium ion batteries, and same batteries
IN Yonezawa, Takashi; Shibuya, Mashio
PA Sony Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 26pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006210161	A2	20060810	JP 2005-20940	20050128
PRAI JP 2005-20940		20050128		

GI



I



II

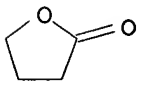
AB The **electrolytes** contain polymers and solvents containing cyclic carboxylate esters, and ≥1 selected from ethylene/propylene carbonate derivs. I and II (X1-4 = H, halo; at least one of X1-4 is halo; X5 = halo; n = 1, 2, 3). The batteries show improved high-temperature storage characteristics and charge-discharge cycling performance.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery gel **electrolyte** lactone carbonate
IT Fluoropolymers
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(**electrolyte** solvents; secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)
IT Battery **electrolytes**
Secondary batteries
(secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)
IT Polyoxyalkylenes
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)
IT **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 108-29-2, γ-Valerolactone 108-32-7, Propylene

carbonate 114435-02-8, 4-Fluoro-1,3-dioxolan-2-one 127213-73-4, 4-(Fluoromethyl)-1,3-dioxolan-2-one
RL: DEV (Device component use); USES (Uses)
(**electrolyte** solvents; secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)

IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Polyvinylidene fluoride 25014-41-9, Polyacrylonitrile 25067-61-2, Polymethacrylonitrile **25322-68-3**, **Polyethylene oxide** 25322-69-4, Polypropylene oxide
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)

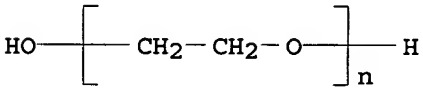
IT **96-48-0**, γ- **Butyrolactone**
RL: DEV (Device component use); USES (Uses)
(**electrolyte** solvents; secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



IT **25322-68-3**, **Polyethylene oxide**
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(secondary Li battery **electrolytes** containing polymers and low-**viscosity** solvents)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



L20 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:476050 HCAPLUS
DN 139:367356
TI Polymer **electrolytes** from PEO and novel quaternary ammonium iodides for dye-sensitized solar cells
AU Kang, J.; Li, W.; Wang, X.; Lin, Y.; Xiao, X.; Fang, S.
CS Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SO Electrochimica Acta (2003), 48(17), 2487-2491
CODEN: ELCAAV; ISSN: 0013-4686
PB Elsevier Science Ltd.
DT Journal
LA English
AB Polymer **electrolytes** were prepared by blending high mol. weight poly(ethylene oxide) (PEO) and novel quaternary ammonium iodides, polysiloxanes with oligo(oxyethylene) side chains and quaternary ammonium

groups. XRD measurements confirmed relatively low crystallinity when the quaternary ammonium iodides were incorporated into the PEO host. The ionic conductivity of these complexes was improved with the addition of plasticizers. The improvement in ionic conductivity was determined by the polarity, **viscosity** and amts. of plasticizers. A plasticized **electrolyte** containing the novel quaternary ammonium iodide was successfully used in fabricating a quasi-solid-state dye-sensitized solar cell for the 1st time. The fill factor and energy conversion efficiency of the cell are 0.68 and 1.39%, resp.

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76

ST ethylene oxide siloxane quaternary ammonium polymer **electrolyte** solar cell

IT Photoelectrochemical cells
Polymer **electrolytes**
(blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT Quaternary ammonium compounds, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(blend with polysiloxane having oligo(oxyethylene) side chains and quaternary ammonium iodide groups; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT Polysiloxanes, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**polyoxyalkylene-**, graft, reaction products with dimethylallylamine and Me iodide; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(polysiloxane-, graft, reaction products with dimethylallylamine and Me iodide; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT 13463-67-7, Titanium oxide (TiO2), uses
RL: DEV (Device component use); USES (Uses)
(blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells with)

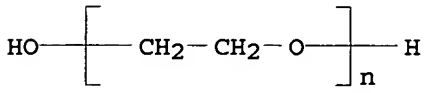
IT **25322-68-3**, PEO
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(blend with polysiloxane having oligo(oxyethylene) side chains and quaternary ammonium iodide groups; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT **96-48-0** 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
RL: NUU (Other use, unclassified); USES (Uses)
(plasticizer; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells with)

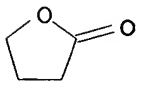
IT 74-88-4D, Methyl iodide, reaction products with PEG-grafted

polymethylsiloxane hydrosilation products with dimethylallylamine 2155-94-4D, N,N-Dimethylallylamine, reaction products with PEG-grafted polymethylsiloxane, quaternized with Me iodide 27252-80-8D, Polyethylene glycol allyl methyl ether, reaction products with polymethylsiloxane and dimethylallylamine, quaternized with Me iodide 203399-77-3D, Ethylene oxide-methylsilanediol graft copolymer methyl ether, reaction products with dimethylallylamine, quaternized with Me iodide
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(poly(ethylene oxide) blend; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)

IT **25322-68-3**, PEO
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(blend with polysiloxane having oligo(oxyethylene) side chains and quaternary ammonium iodide groups; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **96-48-0**
RL: NUU (Other use, unclassified); USES (Uses)
(plasticizer; blend of poly(ethylene oxide) and polysiloxane having quaternary ammonium groups as **electrolyte** for dye-sensitized solar cells with)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:945870 HCAPLUS
DN 138:26917
TI Nonaqueous **electrolyte** and secondary nonaqueous **electrolyte** battery
IN Kono, Tatsuoki; Takami, Norio
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

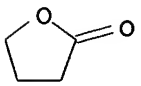
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002359000	A2	20021213	JP 2001-297422	20010927
	JP 3718467	B2	20051124		

applicants

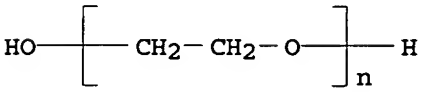
US 2003049540 A1 20030313 US 2002-83372 20020227
PRAI JP 2001-94051 A 20010328
JP 2001-297422 A 20010927

AB The **electrolyte** solution has an salt dissolved in an solvent mixture, and a polymer additive in the solvent mixture; where the **electrolyte** solution is a non-Newtonian fluid with **viscosity** 7-30000 cp at 20°C. The ratio (p) of ion conductivity to **viscosity** (σ/η) in the **electrolyte** solution is < 0.1, the solvent mixture contains γ- **butyrolactone**, and the content of the polymer material of the formula (CH2CH2O)n is 0.01-10 % of the solvent mixture The battery has an active mass containing cathode, a Li intercalating anode and the above required **electrolyte** solution in between.

IC ICM H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium secondary battery **electrolyte** nonaq solvent polymer additive; nonaq solvent **butyrolactone** polymer additive content **viscosity**
IT Battery **electrolytes**
(Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT Carbonaceous materials (technological products)
RL: DEV (Device component use); USES (Uses)
(anode; Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT Secondary batteries
(lithium; Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 14283-07-9, Lithium tetrafluoroborate **25322-68-3**, **Polyethylene oxide**
RL: DEV (Device component use); USES (Uses)
(Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT 111706-40-2, Cobalt lithium oxide (CoLi0-1O2)
RL: DEV (Device component use); USES (Uses)
(cathode; Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
IT **96-48-0**, γ- **Butyrolactone** **25322-68-3**, **Polyethylene oxide**
RL: DEV (Device component use); USES (Uses)
(Li salt **electrolyte** solns. containing polymer additives in γ- **butyrolactone** solvent mixts. with controlled **viscosity** for secondary lithium batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)

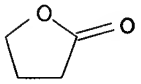


RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)

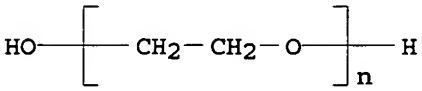


L20 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:554946 HCAPLUS
DN 137:302681
TI Ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers
AU Kumar, Manoj; Sekhon, S. S.
CS Department of Applied Physics, G N D University, Amritsar, 143005, India
SO Ionics (2002), 8(3 & 4), 223-233
CODEN: IONIFA; ISSN: 0947-7047
PB Institute for Ionics
DT Journal
LA English
AB The effect of different plasticizers on the properties of PEO-NH4F polymer **electrolytes** was studied. Aprotic organic solvents like propylene carbonate (PC), ethylene carbonate (EC), γ- **butyrolactone** (γ-BL), dimethylacetamide (DMA), DMF, di-Et carbonate (DEC) and di-Me carbonate (DMC) having different values of donor number, dielec. constant, **viscosity** etc. were used as plasticizers. The addition of plasticizer was found to modify the conductivity of polymer **electrolytes** by increasing the amorphous content as well as by dissociating the ion aggregates present in polymer **electrolytes** at higher salt concns. The conductivity enhancement with different plasticizers is closely related to the donor number of the plasticizer used rather than its dielec. constant The increase in conductivity with the addition of plasticizer further is dependent upon the level of ion association present in the **electrolytes.** The variation of conductivity as a function of plasticizer concentration and temperature also was studied and maximum conductivity of .apprx.10-3 S /cm at room temperature was obtained. X-ray diffraction studies show an increase of amorphous content in polymer **electrolytes** with the addition of plasticizers.
CC 76-1 (Electric Phenomena)
Section cross-reference(s): 36
ST ionic cond polymer **electrolyte** plasticizer
IT Ionic conductivity
Plasticizers
Polymer **electrolytes**
(ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ionic conductance behavior of plasticized polymer **electrolytes**

containing different plasticizers)
IT Solvents
(organic, plasticizers; ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
IT 68-12-2, DMF, uses **96-48-0**, γ- **Butyrolactone**
96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 127-19-5, Dimethylacetamide 616-38-6, Dimethyl carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
IT 12125-01-8, Ammonium fluoride (NH4F) **25322-68-3**, **Polyethylene oxide**
RL: TEM (Technical or engineered material use); USES (Uses)
(ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
IT **96-48-0**, γ- **Butyrolactone**
RL: MOA (Modifier or additive use); USES (Uses)
(ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



IT **25322-68-3**, **Polyethylene oxide**
RL: TEM (Technical or engineered material use); USES (Uses)
(ionic conductance behavior of plasticized polymer **electrolytes** containing different plasticizers)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:499496 HCAPLUS
DN 131:288823
TI The measurement of self-diffusion coefficients of various species by the pulse gradient-field spin-echo NMR method. The motions of ions in the **electrolytes** for lithium batteries
AU Hayamizu, Kikuko; Aihara, Yuichi
CS Natl. Inst. Mater. Chem. Res., Tsukuba, 305-8565, Japan
SO Materia (1999), 38(7), 555-558
CODEN: MTERE2; ISSN: 1340-2625
PB Nippon Kinzoku Gakkai
DT Journal
LA Japanese
AB The title PGSE-NMR method was applied to the measurements of

self-diffusion coefficient (D) of ions in the **electrolytes** for Li batteries. The NMR measurement nuclei were 7Li for Li+, 19F for N(SO2CF3)- and 1H for solvents used for the batteries, resp. The measured D values of 14 organic solvents and Li+ and N(SO2CF3)2- in their solvents were inversely proportional to the solvent **viscosities** according to the Stokes-Einstein equation. The D ratio of Li+ to the solvent was >2 in ethylene carbonate and γ- **butyrolactone**, indicating 2 mols. of the solvents can solvate Li+ and that for N(SO2CF3)2- was 1.2 in every solvents, indicating the less solvation to the anion. The molar elec. conds. of LiN(SO2CF3)2 evaluated from the D values in organic solvents using the Nernst-Einstein equation were different from those obtained by electrochem. a.c. method. The differences are attributed to the dissociation degrees of the **electrolyte**. The PGSE-NMR method was also applied to polymer **electrolyte** gels using poly(ethylene oxide) as a polymer matrix.

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 65

ST lithium battery **electrolyte** ion motion; self diffusion coeff
lithium battery **electrolyte**

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(**electrolyte**; measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

IT Battery **electrolytes**
Electric conductivity
(measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

IT Diffusion
(self-; measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

IT **25322-68-3**
RL: DEV (Device component use); USES (Uses)
(**electrolyte**; measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

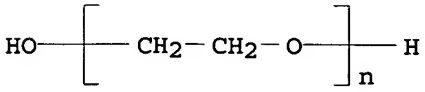
IT **96-48-0** 96-49-1, Ethylene carbonate 108-29-2, γ-Valerolactone 108-32-7, Propylene carbonate 109-99-9, uses 110-71-4 111-96-6, Diglyme 112-49-2, Triglyme 123-91-1, 1,4-Dioxane, uses 616-38-6, Dimethyl carbonate 872-50-4, n-Methylpyrrolidone, uses 4437-85-8, Butylene carbonate
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

IT 17341-24-1, Lithium(1+), processes 98837-98-0
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

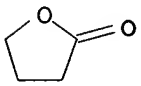
IT **25322-68-3**
RL: DEV (Device component use); USES (Uses)
(**electrolyte**; measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)

RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **96-48-0**
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(measurements of self-diffusion coefficient of ions in **electrolytes** for Li batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L20 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:73180 HCAPLUS
DN 130:189931
TI Easy Preparation and Useful Character of Organogel **Electrolytes** Based on Low Molecular Weight Gelator
AU Hanabusa, Kenji; Hiratsuka, Kaori; Kimura, Mutsumi; Shirai, Hirofusa
CS Department of Functional Polymer Science Faculty of Textile Science Technology, Shinshu University, Ueda, 386-8567, Japan
SO Chemistry of Materials (1999), 11(3), 649-655
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Using N-carbobenzyloxy-L-isoleucylaminooctadecane as a low mol. weight gelator for polar solvents, organogel **electrolytes** were prepared from supporting **electrolyte** and a polar solvent such as DMF, DMSO, and PC by phys. gelation. The ionic conductivity of the prepared organogel **electrolytes** decreased very slightly with increasing concentration of gelator, while the gel strength drastically increased with increasing concentration The organogel prepared from DMF exhibited relatively high ionic conductivity, interpreted due to the high mobility of carrier ions in the low-**viscosity** DMF. Arrhenius plots of ionic conductivities of organogel **electrolytes** indicate that the behavior of supporting **electrolytes** in the organogels is essentially similar to that in the isotropic solution, and the ionic mobility of supporting **electrolytes** is scarcely affected by the gelator mols. The optimal concentration of supporting **electrolytes** in organogel **electrolytes** to achieve both high conductivity and high gel strength was 0.05-0.2 M. The addition of PEG to organogel **electrolytes** markedly raised the gel strength without decreasing ionic conductivity
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 72
ST organogel **electrolyte** concd prepn gelator carbobenzyloxyisoleucylaminooctadecane polar solvent
IT Optimization
(concentration of **electrolytes**; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)
IT Gelation agents
(easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)
IT Polyoxyalkylenes, properties
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(easy preparation and useful character of organogel **electrolytes**

based on low mol. weight gelator)

IT Polar solvents
(gelator for; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT Electric current carriers
(ions, high mobility of; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT Ionic conductivity
(organogel **electrolytes**; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT **Electrolytes**
(organogel; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT Gels
(strength of; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT 212840-68-1
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Z-L-Ile-NHC18H37 gelator; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

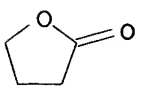
IT 67-56-1, Methanol, properties 67-63-0, 2-Propanol, properties 67-64-1, Acetone, properties 71-23-8, 1-Propanol, properties 71-36-3, 1-Butanol, properties 75-05-8, Acetonitrile, properties 78-93-3, 2-Butanone, properties **96-48-0**, γ- **Butyrolactone** 141-78-6, Ethyl acetate, properties **25322-68-3**, Polyethylene glycol
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT 1923-70-2, Tetra-n-butylammonium perchlorate 7791-03-9, Lithium perchlorate (LiClO4)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**electrolyte**; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

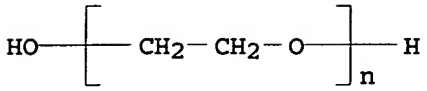
IT 67-68-5, Dimethyl sulfoxide, properties 68-12-2, Dimethyl formamide, properties
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(polar solvent; easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

IT **96-48-0**, γ- **Butyrolactone** **25322-68-3**, Polyethylene glycol
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(easy preparation and useful character of organogel **electrolytes** based on low mol. weight gelator)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:702055 HCAPLUS
DN 128:13756
TI Acrylic polyurethane solid **electrolyte**-formable compositions and manufacture of solid **electrolytes** using them
IN Takiyama, Eiichiro; Matsui, Fumio; Morita, Katsuhisa; Takino, Yukiko; Ogiwara, Kazushige; Takahashi, Kentaro
PA Showa Highpolymer Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09278971	A2	19971028	JP 1996-88528	19960410
PRAI	JP 1996-88528		19960410		

AB The compns. contain (A) monomers having (meth)acryloyl groups and acetoacetoxy groups in a mol., (B) unsatd. polyurethanes obtained by reaction of (meth)acryloyl- and OH-having unsatd. polyesters with isocyanates, (C) Li compds., and (D) solvents which can dissolve the Li compds. The **electrolytes** are manufactured by polymerization of the above compns., which may be previously partially polymerized to control the **viscosity**, in a die. The compns. are useful for manufacture of film batteries. Thus, a composition containing AAEM (acetoacetoxyethyl methacrylate)
100, an unsatd. polyurethane [obtained by reaction of Placcel FM 5 with MOI (isocyanatoethyl methacrylate)] 15, propylene carbonate 185, LiBF4 30, and benzoyl peroxide 2 parts was casted between 2 Pt electrode plate and polymerized at 80-100° for 2 h under N flow to give a soft gelatin-like polymer film with elec. conductivity 2.1 + 10-4 S/cm.
IC ICM C08L033-14
ICS C08K003-24; C08L075-14; H01B001-06; H01M006-18; H01M010-40
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 52
ST acrylic polyurethane solid **electrolyte** lithium salt; cast polymn acrylic polyurethane solid **electrolyte**; acetoacetoxyethyl acrylate polyurethane lithium salt **electrolyte**; methacrylate acetoacetoxyethyl polyurethane lithium salt **electrolyte**
IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)
IT Polymerization
(casting; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)
IT Battery **electrolytes**
(manufacture of solid **electrolytes** from acrylic polyurethanes

compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**polyoxyalkylene**-, acrylic; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

IT Polyelectrolytes
(solid; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

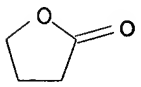
IT 198956-70-6P 198956-71-7P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

IT 7791-03-9, Lithium perchlorate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium trifluoromethanesulfonate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

IT 75-05-8, Acetonitrile, uses **96-48-0**, γ-**Butyrolactone** 108-32-7, Propylene carbonate 110-71-4, 1,2-Dimethoxyethane 126-33-0, Sulfolane
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; manufacture of solid **electrolytes** from acrylic polyurethanes compns. containing acetoacetoxyethyl (meth)acrylate, unsatd. polyurethanes, and Li compds.)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L20 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:340895 HCAPLUS
DN 127:7096
TI Nonaqueous **electrolyte** secondary battery and its manufacture
IN Inukai, Tadashi; Uno, Keiichi; Kurita, Tomoharu; Yamaguchi, Hiroki; Narisawa, Haruhiko
PA Toyobo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09073904	A2	19970318	JP 1995-226289	19950904
	JP 3642355	B2	20050427		
PRAI	JP 1995-226289		19950904		

AB Claimed batteries comprise polyester resins having reduced **viscosity** ≥0.3 dL/g as binders for anodes and cathodes, where the anode active mass contains 3-20 weight% binders. Claimed process comprises coating pastes containing C materials and binder resins dispersed in solvents containing N-methyl-2-pyrrolidone, γ- **butyrolactone**, cyclohexanone, and/or xylene on metal foils and drying to give anode mass layers. The active mass has high dispersibility and resulting batteries high energy d. and long cycle life.

IC ICM H01M004-62
ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST nonaq battery electrode polyester resin binder

IT Battery anodes
Battery cathodes
Binders
(active mass containing polyester resins and its manufacture for nonaq. batteries)

IT Petroleum pitch
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(fired, anodes; active mass containing polyester resins and its manufacture for nonaq. batteries)

IT Secondary batteries
(lithium; active mass containing polyester resins and its manufacture for nonaq. batteries)

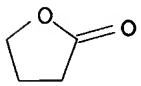
IT Polyoxyalkylenes, uses
Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(polyester-, binders; active mass containing polyester resins and its manufacture for nonaq. batteries)

IT Polyesters, uses
Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(**polyoxyalkylene**-, binders; active mass containing polyester resins and its manufacture for nonaq. batteries)

IT 26591-41-3P, 1,4-Butanediol-1,4-cyclohexanedicarboxylic acid-terephthalic acid copolymer 189286-75-7P 189286-76-8P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(binder; active mass containing polyester resins and its manufacture for nonaq. batteries)

IT **96-48-0**, γ- **Butyrolactone** 108-94-1, Cyclohexanone, uses 872-50-4, N-Methyl-2-pyrrolidone, uses 1330-20-7, Xylene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; active mass containing polyester resins and its manufacture for nonaq. batteries)

IT **96-48-0, γ- Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; active mass containing polyester resins and its manufacture for nonaq.
batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L20 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:725353 HCAPLUS
DN 126:51022
TI Gel-forming system for use as wound dressings
IN Fox, Adrian S.; Allen, Amy E.
PA Nepera, Inc., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5578661	A	19961126	US 1994-221159	19940331
PRAI US 1994-221159		19940331		

AB A gel-forming system comprising an aqueous mixture of a first component of at least one water-soluble polymer in an amount sufficient to increase the initial **viscosity** of the mixture and impart adhesion properties thereto; a second component of an acid-containing polymer; a third component of an amino-containing polymer; and water. This system has a pH 5.5-8.5 and the second and third components are each present in sufficient amts. which, in combination, increase the cohesiveness of the mixture over time, such that the mixture can be initially combined in a relatively fluid state and subsequently forms a cohesive gel structure. This system is useful as a wound dressing for deep wound cavities because the gel protects the wound and permits healing, does not interfere with new tissue growth or development, is capable of absorbing significant amts. of wound exudate, and has sufficient cohesive strength for subsequent removal from the cavity as an integral plug without interrupting the healing process. For example, a gel-forming composition contained ethylene-maleic anhydride copolymer 0.5, N,O-carboxymethyl chitosan 2.5, PVP 10, **polyethylene oxide** 0.5, and NaOH 0.16 %.
IC ICM C08L005-00
ICS C08L039-06; C08L071-02
INCL 524027000
CC 63-7 (Pharmaceuticals)
ST wound dressing gel polymer mixt
IT Medical goods
(dressings; gel-forming system for use as wound dressings)
IT **Electrolytes**
(gel-forming system for use as wound dressings)
IT Glycosaminoglycans, biological studies
Peptides, biological studies
Platelet-derived growth factors
Polysaccharides, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gel-forming system for use as wound dressings)

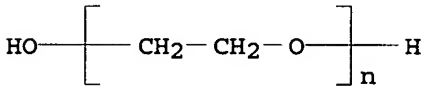
IT Transforming growth factors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β1-; gel-forming system for use as wound dressings)

IT 526-95-4D, Gluconic acid, derivs. 9000-07-1, Carrageenan 9002-18-0, Agar 9003-01-4, Polyacrylic acid 9003-39-8, PVP 9004-61-9, Hyaluronic acid 9005-32-7, Alginic acid 9005-49-6, Heparin, biological studies 9006-26-2, Ethylene-maleic anhydride copolymer 9011-16-9, Maleic anhydride-methyl vinyl ether copolymer 9012-76-4, Chitosan 25104-18-1, Poly(L-lysine) **25322-68-3**, **Polyethylene oxide** 28062-44-4, Acrylic acid-vinylpyrrolidone copolymer 38000-06-5, Poly(L-lysine) 62229-50-9, Epidermal growth factor 83512-85-0, N-Carboxymethylchitosan 107043-88-9, N,O-Carboxymethylchitosan
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gel-forming system for use as wound dressings)

IT 56-81-5, Glycerol, biological studies **96-48-0**, γ-Butyryl lactone 97-64-3, Ethyl lactate 123-42-2, Diacetone alcohol 872-50-4, N-Methylpyrrolidone, biological studies 2687-91-4, N-Ethylpyrrolidone
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(humectant; gel-forming system for use as wound dressings)

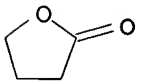
IT **25322-68-3**, **Polyethylene oxide**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gel-forming system for use as wound dressings)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **96-48-0**, γ-Butyryl lactone
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(humectant; gel-forming system for use as wound dressings)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L20 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1983:595804 HCAPLUS
DN 99:195804
TI A mechanism of ionic conduction of poly(vinylidene fluoride)-lithium perchlorate hybrid films
AU Tsunemi, Koichi; Ohno, Hiroyuki; Tsuchida, Eishun
CS Dep. Polym. Chem., Waseda Univ., Tokyo, 160, Japan
SO Electrochimica Acta (1983), 28(6), 833-7
CODEN: ELCAAV; ISSN: 0013-4686
DT Journal
LA English
AB Polymeric solid **electrolytes** were prepared by the hybridization of

poly(vinylidene fluoride) [24937-79-9] and LiClO4 [7791-03-9]. These were obtained as 0.1-mm-thick films, and showed high Li ionic conductivity (.apprx.10-5 S/cm). The conductivity depended on the content of LiClO4 and polar additives having high boiling temperature The amount of LiClO4 vs. the logarithm of the conductivity was linear up to a certain (critical) amount of LiClO4. Beyond the critical value, crystals of LiClO4 grew in the polymer matrix, and the conductivity was not increased as much. The **viscosity** and dielec. constant of the additives were major factors leading to increases in the conductivity of the hybrid film. Organic polar materials with lower **viscosity** (e.g. DMF [68-12-2] or γ- **butyrolactone** [**96-48-0**]) strongly contributed to the improvement of Li ionic conductivity The activation energy of conduction decreased dramatically upon increasing the additive-LiClO4 mol ratio. The Li ions migrated in the conduction path which was formed by the polymer matrix with organic additive mols.

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 76

ST polyvinylidene fluoride hybrid film cond; lithium perchlorate fluoropolymer film cond; **butyrolactone** cond polymer lithium film; ionic cond fluoropolymer perchlorate

IT Electric conductivity and conduction
(ionic, of poly(vinylidene fluoride)-lithium perchlorate films, effect of organic additives on)

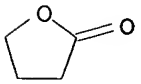
IT 24937-79-9
RL: USES (Uses)
(films, lithium perchlorate-containing, ionic conductivity of, effect of organic additives on)

IT 68-12-2, uses and miscellaneous **96-48-0** 96-49-1 108-32-7 **25322-68-3** 25322-69-4
RL: USES (Uses)
(ionic conductivity of poly(vinylidene fluoride)-lithium perchlorate films containing)

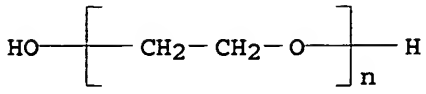
IT 7791-03-9
RL: USES (Uses)
(poly(vinylidene fluoride films containing, ionic conductivity of, effect of organic additives on)

IT **96-48-0 25322-68-3**
RL: USES (Uses)
(ionic conductivity of poly(vinylidene fluoride)-lithium perchlorate films containing)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



```
=> => D QUE
L3             1 SEA FILE=REGISTRY ABB=ON  96-48-0
L4             1 SEA FILE=REGISTRY ABB=ON  25322-68-3
L5         16610 SEA FILE=HCAPLUS ABB=ON  L3 OR BUTYROLACTONE
L6         92299 SEA FILE=HCAPLUS ABB=ON  L4
L7           366 SEA FILE=HCAPLUS ABB=ON  L5 AND (L6 OR POLYETHYLENE OXIDE)
L8           156 SEA FILE=HCAPLUS ABB=ON  L7 AND ELECTROLYTE#
L9             8 SEA FILE=HCAPLUS ABB=ON  L8 AND VISCOS?
L12        36490 SEA FILE=HCAPLUS ABB=ON  POLYOXYALKYLENE/IT
L13           19 SEA FILE=HCAPLUS ABB=ON  L12(L)L5
L14           12 SEA FILE=HCAPLUS ABB=ON  L13 AND ELECTROLYTE#
L15        46625 SEA FILE=HCAPLUS ABB=ON  POLYOXYETHYLENE
L16           17 SEA FILE=HCAPLUS ABB=ON  L15(L)L5
L17            9 SEA FILE=HCAPLUS ABB=ON  L16 AND ELECTROLYTE#
L18          206 SEA FILE=HCAPLUS ABB=ON  L5 AND (L12 OR L15)
L19            3 SEA FILE=HCAPLUS ABB=ON  L18 AND ELECTROLYTE# AND VISCOS?
L20           10 SEA FILE=HCAPLUS ABB=ON  L9 OR L19
L21           21 SEA FILE=HCAPLUS ABB=ON  L14 OR L17
L22           21 SEA FILE=HCAPLUS ABB=ON  L21 NOT L20
L23           12 SEA FILE=HCAPLUS ABB=ON  L21 AND ELECTROCHEMICAL/SC,SX
L24            4 SEA FILE=HCAPLUS ABB=ON  L22 AND ELECTROLYTE?(L)(LIQUID? OR
                 GEL )
L25           16 SEA FILE=HCAPLUS ABB=ON  L23 OR L24
```

Other references which do not mention viscosity

```
=> D L25 1-16 BIB ABS IND HITSTR

L25  ANSWER 1 OF 16  HCAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:76378  HCAPLUS
DN   144:153433
TI   Lithium battery using crosslinked polyoxyalkylene electrolyte
     with high ionic conductivity
IN   Matsui, Shohei; Miura, Katsuhito; Tabuchi, Masato; Wada, Yoshihiko
PA   Daiso Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 13 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    --------------------   --------
PI   JP 2006024440        A2    20060126    JP 2004-201249         20040708
PRAI JP 2004-201249               20040708
AB   The battery has an electrolyte composition comprising (A)
     polyoxyalkylenes with Mw 1 + 104 to 1 + 107 comprising
     different repeating units, (B) aprotic organic solvents, (C) P-containing
     low-mol.-weight additives, and (D) Li salts.  The polyoxyalkylenes preferably
     comprise repeating units of CH2CH2O, CH2CHR1O [R1 = (CH2O)nR2; n = 0, 1;
     R2 = C1-6 alkyl, Ph, (CH2CH2O)aR3, etc.; R3 = C1-6 alkyl; a = 0-12], and
     CH2CHR4O (R4 = group having ethylenically unsatd. group).
CC   52-2 (Electrochemical, Radiational, and Thermal Energy
     Technology)
```

Section cross-reference(s): 38

ST crosslinked polyoxyalkylene **electrolyte** lithium battery ionic cond; phosphate crosslinked polyoxyethylene lithium battery **electrolyte**; acrylic polyoxyalkylene secondary lithium battery **electrolyte**

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(acrylic, crosslinked, Li complexes; crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT Solvents
(aprotic; crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT Battery **electrolytes**
Polymer **electrolytes**
(crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT Phosphates, uses
Phosphazenes
Phosphines
Phosphites
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(crosslinked, Li complexes; crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT Secondary batteries
(lithium; crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT 7439-93-2DP, Lithium, polyoxyalkylene complexes, perfluoroethylsulfonylimide- or tetrafluoroborate-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

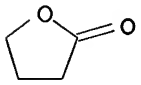
IT 78-40-0, Triethyl phosphate 122-52-1, Triethyl phosphite 513-02-0, Triisopropyl phosphate 21646-99-1, Tetraethyl pyrophosphite
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT 26282-59-7DP, Allyl glycidyl ether-ethylene oxide copolymer, Li complexes, tetrafluoroborate-containing 815574-41-5DP, Li complexes, tetrafluoroborate-containing 815574-42-6DP, Li complexes, perfluoroethylsulfonylimide-containing 874115-88-5DP, Li complexes, perfluoroethylsulfonylimide-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(crosslinked; crosslinked polyoxyalkylene **electrolyte** for Li battery with high ionic conductivity)

IT **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
RL: DEV (Device component use); USES (Uses)
(solvent; crosslinked **polyoxyalkylene electrolyte** for Li battery with high ionic conductivity)

IT **96-48-0**, γ- **Butyrolactone**

RL: DEV (Device component use); USES (Uses)
(solvent; crosslinked **polyoxyalkylene electrolyte** for Li battery with high ionic conductivity)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L25 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:106969 HCAPLUS
DN 143:29385
TI Comb polysiloxane, its solid **electrolyte** and method for preparing the solid **electrolyte**
IN Kang, Junjie; Fang, Shibi; Li, Yongjun
PA Institute of Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1464002	A	20031231	CN 2002-123211	20020612
PRAI	CN 2002-123211		20020612		

AB The solid **electrolyte** thin film is composed of comb polysiloxane of the formula Me3SiO(R1MeSiO)m(R2MeSiO)nSiMe3 (R1 = a **polyoxyethylene** group with a mol. weight of 350-800; R2 = I-terminated anionic quaternary ammonium; m + n = 25-300; and n/(m + n) x 100% = 10-100%) 1, polar small mol. plasticizer 0.5-8, and polymer carrier 0.075-2.5 part. The polymer carrier is **polyoxyethylene** (its mol. weight is 105-107), vinylidene difluoride-perfluoropropylene copolymer, or polyacrylonitrile. The plasticizer is ethylene carbonate, propylene carbonate, di-Et carbonate, di-Me carbonate, Et Me carbonate, γ-**butyrolactone**, DMF, and/or DMSO.
IC ICM C08G077-56
ICS C08L083-14
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST comb polysiloxane **electrolyte** thin film prepn
IT Polysiloxanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(Me hydrogen, reaction product with polyethylene glycol allyl monomethyl ether and N,N-Dimethylallylamine and Me iodide; comb polysiloxane, its solid **electrolyte** and method for preparing the solid **electrolyte**)
IT Transport properties
(ionic; of solid **electrolyte** prepared from comb polysiloxane)
IT Ionic conductors
(solid **electrolyte** prepared from comb polysiloxane for)
IT Solar cells
(solid **electrolyte** prepared from comb polysiloxane for ionic conductors for)
IT Fuel cells
(solid **electrolyte**; solid **electrolyte** prepared from

comb polysiloxane for)

IT 74-88-4DP, Methyl iodide, reaction product with Me hydrogen siloxane and N,N-Dimethylallylamine and polyethylene glycol allyl monomethyl ether 2155-94-4DP, N,N-Dimethylallylamine, reaction product with polyethylene glycol allyl monomethyl ether and Me hydrogen siloxane and Me iodide 27252-80-8DP, reaction product with Me hydrogen siloxane and N,N-Dimethylallylamine and Me iodide
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(comb polysiloxane, its solid **electrolyte** and method for preparing the solid **electrolyte**)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; comb polysiloxane, its solid **electrolyte** and method for preparing the solid **electrolyte**)

IT 9011-17-0, Hexafluoropropylene-vinylidene difluoride copolymer 25014-41-9, Polyacrylonitrile
RL: MSC (Miscellaneous)
(polymer carrier; comb polysiloxane, its solid **electrolyte** and method for preparing the solid **electrolyte**)

L25 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1154773 HCAPLUS
DN 142:75406
TI Polyoxyalkylene-containing crosslinked polymer **electrolyte** and batteries prepared thereby
IN Miura, Katsuhito; Tabuchi, Masato; Matsui, Shouhei; Wada, Yoshihiko
PA Daiso Co., Ltd., Japan
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

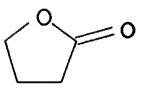
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004113443	A1	20041229	WO 2004-JP8834	20040617

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI JP 2003-175350 A 20030619

AB Title polymer **electrolyte** composition, which is excellent in **liquid** retention and ionic conductivity, is composed of a crosslinked polyoxyalkylene (1) having a repeating unit: -(CH2-CH2-O)- and a crosslinking unit: -(CH2-CHR1-O)- (R1 = unsatd. ethylene type group with ester linkage), such as glycidyl acrylate and glycidyl methacrylate, which has a weight-average mol. weight of 104 - 107, an electrolytic **liquid** (2) comprising an aprotic organic solvent, (3) an ethylene oxide unit-containing ethers, and an **electrolyte** salt (4) comprising a lithium salt. The composition that is usable in a wide temperature range and has excellent electrochem. properties can be used in batteries. Thus, glycidyl methacrylate and ethylene oxide were polymerized using a catalyst prepared from tributyltin chloride and tri-Bu phosphate, and then crosslinked in the presence of benzyl peroxide, ethylene carbonate, γ-butyrolactone,

LiBF4 to receive the polymer **electrolyte** composition
IC ICM C08L071-02
ICS C08K003-10; C08G065-26; H01B001-06; H01M006-18; H01M010-40
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76
ST glycidyl methacrylate ethylene oxide copolymer polymer **electrolyte** battery; lithium boron tetrafluoride butyrolactone ethylene carbonate polymer **electrolyte** battery
IT Polymer **electrolytes**
Primary batteries
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT Polyethers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT 13822-09-8, Benzyl peroxide
RL: CAT (Catalyst use); USES (Uses)
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT 815574-41-5P 815574-42-6P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 7791-03-9, Lithium perchlorate 14283-07-9 292618-42-9
RL: MOA (Modifier or additive use); USES (Uses)
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(**polyoxyalkylene**-containing crosslinked polymer **electrolyte** for batteries)
IT 126-73-8, Tributyl phosphate, reactions 1461-22-9, Tributyltin chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyoxyalkylene-containing crosslinked polymer **electrolyte** for batteries)
IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(**polyoxyalkylene**-containing crosslinked polymer **electrolyte** for batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:823008 HCAPLUS
DN 141:334863
TI Crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type **electrolytes** for lithium secondary batteries

IN Barrandon, Georges; George, Catherine; Vergelati, Caroll; Giraud, Yves
PA Rhodia Chimie, Fr.
SO Fr. Demande, 25 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2853321	A1	20041008	FR 2003-4153	20030403
	FR 2853321	B1	20050506		
	WO 2004090037	A1	20041021	WO 2004-FR708	20040323
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1608705	A1	20051228	EP 2004-742318	20040323
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	CN 1788054	A	20060614	CN 2004-80013072	20040323
PRAI	FR 2003-4153	A	20030403		
	WO 2004-FR708	W	20040323		

OS MARPAT 141:334863
AB Crosslinked polymeric **electrolytes** for lithium secondary batteries consist of: (1) a first poly(hydrogen organic siloxane) with ≥2 Si-H bonds per mol., (2) a second polysiloxane containing ≥2 Si-OH bonds per mol., (3) a dehydrogenation-condensation catalyst, and (4) ≥1 salt **electrolyte.** The polyoxyalkylene ether functions are derived from polyoxyethylene, polyoxypropylene, or their mono-Me ethers. The dehydrogenation-condensation catalysts are typically metal complexes based on Pt, B, Rh, Pd, Sn, or Ir, preferably Karstedt (hydrosilylation) catalysts of formula IrCl(C:O)(PPh3)2. Suitable salt **electrolytes** include LiClO4, LiBF4, LiAsF6, CF3SO3Li, LiN(CF3SO2)2, and LiN(C2F5SO2)2 in a non-aqueous **electrolyte** solvent, as well as other cations (e.g., transition metal cations, selected from Mn, Fe, Co, Ni, Cu, Zn, Ca, and Ag). Addnl. ions include ammonium, amidinium, guanidinium cations, halides, ClO4-, SCN-, BF4-, NO3-, AsF6-, PF6-, RSO3- (R = stearyl, CF3, octyl, dodecylphenyl, and C1-6-perfluoroalkyl and -perfluoroaryl), (R5SO2)2N-, and (R4SO2)(R5SO2)(R6SO2)C- (R4-6 = C1-6-perfluoroalkyl and -perfluoroaryl).
IC ICM C08L083-06
ICS H01M010-26
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 37
ST crosslinked polymer **electrolyte** polyoxyalkylene polysiloxane lithium battery; nonaq battery polyoxyalkylene polysiloxane **electrolyte**; hydrosilylation condensation polyoxyalkylene polysiloxane crosslinking battery **electrolyte**; Karstedt hydrosilylation condensation polyoxyalkylene polysiloxane battery **electrolyte**
IT Onium compounds
RL: DEV (Device component use); SPN (Synthetic preparation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)
(amidinium compds., battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Bromides, uses
Chlorides, uses
Halides
Iodides, uses
Quaternary ammonium compounds, uses
Transition metal salts
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polymerization
Polymerization catalysts
(dehydrogenation, dehydrogenation-condensation; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Hydrosilylation
Hydrosilylation catalysts
(dehydrogenation-condensation; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(di-Me, Me hydrogen polysiloxane-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polysiloxanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(di-Me, Me hydrogen, polyoxyalkylene-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Onium compounds
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(guanidinium, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Battery **electrolytes**
(nonaq.; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polysiloxanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysiloxane-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT 7439-88-5D, Iridium, complexes 7440-05-3D, Palladium, complexes
7440-06-4D, Platinum, complexes 7440-16-6D, Rhodium, complexes

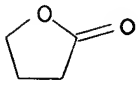
7440-31-5D, Tin, complexes 7440-42-8D, Boron, complexes
RL: CAT (Catalyst use); USES (Uses)
(Karstedt complexes, dehydrogenation-condensation catalysts; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT 67-68-5P, Dimethyl sulfoxide, uses **96-48-0P**, γ-**Butyrolactone** 96-49-1P, Ethylene carbonate 105-58-8P, Diethyl carbonate 108-32-7P, Propylene carbonate 109-99-9P, Tetrahydrofuran, uses 110-71-4P 463-56-9DP, Thiocyanic acid, salts 616-38-6P, Dimethyl carbonate 623-53-0P, Ethyl methyl carbonate 646-06-0P, 1,3-Dioxolane 6140-87-0DP, Stearylsulfonic acid, salts 7439-89-6DP, Iron, salts 7439-96-5DP, Manganese, salts 7440-02-0DP, Nickel, salts 7440-22-4DP, Silver, salts 7440-48-4DP, Cobalt, salts 7440-50-8DP, Copper, salts 7440-66-6DP, Zinc, salts 7440-70-2DP, Calcium, salts 7601-90-3DP, Perchloric acid, salts 7697-37-2DP, Nitric acid, salts 7791-03-9P, Lithium perchlorate 14283-07-9P, Lithium tetrafluoroborate 16872-11-0DP, Tetrafluoroboric acid, salts 16940-81-1P, Phosphate(1-), hexafluoro-, hydrogen 21324-40-3P, Lithium hexafluorophosphate 24991-55-7P, Polyethylene glycol dimethyl ether 25278-06-2DP, Imidosulfuric acid, derivs., salts 27176-87-0DP, Dodecylbenzenesulfonic acid, salts 33454-82-9P, Trifluoromethanesulfonic acid, lithium salt 54322-33-7DP, Methanetrisulfonic acid, derivs., salts 90076-65-6P 132843-44-8P 171483-98-0P, Silanediol, dimethyl-, polymer with methylsilanediol and oxirane, methyl ether, graft
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery **electrolytes** containing; crosslinked **polyoxyalkylene**-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT 77-58-7, Dibutyltin dilaurate 14871-41-1, Iridium, carbonylchlorobis(triphenylphosphine)-
RL: CAT (Catalyst use); USES (Uses)
(dehydrogenation-condensation catalysts; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT **96-48-0P**, γ- **Butyrolactone**
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery **electrolytes** containing; crosslinked **polyoxyalkylene**-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:823006 HCAPLUS
DN 141:334861
TI Crosslinked polyoxyalkylene-polysiloxanes for use as nonaqueous salt-type **electrolytes** for lithium secondary batteries
IN Gambut, Lucile; George, Catherine; Vergelati, Caroll; Pujol, Jean Marc
PA Rhodia Chimie, Fr.

SO Fr. Demande, 24 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2853319	A1	20041008	FR 2003-4157	20030403
	FR 2853319	B1	20050506		
	WO 2004090038	A1	20041021	WO 2004-FR709	20040323
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1608706	A1	20051228	EP 2004-742319	20040323
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	CN 1788055	A	20060614	CN 2004-80013112	20040323
PRAI	FR 2003-4157	A	20030403		
	WO 2004-FR709	W	20040323		

OS MARPAT 141:334861

AB Polymeric **electrolytes** for lithium secondary batteries consist of: (1) a polyorganosiloxane containing ≥2 C2-6-alkenylsilane or -alkenylsiloxane, and includes a polyoxyalkylene ether function, (2) a second polyorganosiloxane containing ≥2 (preferably 0.4-10) active Si-H bonds per mol., (3) a hydrosilylation catalyst (especially a Karstedt-type complex), and (4) ≥1 salt **electrolyte.** The polyoxyalkylene ether functions are derived from polyoxyethylene, polyoxypropylene, or their mono-Me ethers. Suitable salt **electrolytes** include LiClO4, LiBF4, LiAsF6, CF3SO3Li, LiN(CF3SO2)2, and LiN(C2F5SO2)2 in a non-aqueous **electrolyte** solvent, as well as other cations (e.g., a transition metal cations, selected from Mn, Fe, Co, Ni, Cu, Zn, Ca, and Ag).

IC ICM C08G077-20
ICS C08L083-07; C08K003-00; H01M010-22; H01B001-12

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 38

ST crosslinked polymer **electrolyte** polyoxyalkylene polysiloxane lithium battery; nonaq battery polyoxyalkylene polysiloxane **electrolyte**; hydrosilylation polyoxyalkylene polysiloxane crosslinking battery **electrolyte**; Karstedt hydrosilylation polyoxyalkylene polysiloxane battery **electrolyte**

IT Polysiloxanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Transition metal salts
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(battery **electrolytes** containing; crosslinked

polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Hydrosilylation
Hydrosilylation catalysts
(crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(di-Me, Me hydrogen polysiloxane-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polysiloxanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(di-Me, Me hydrogen, polyoxyalkylene-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Battery **electrolytes**
(nonaq.; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polysiloxanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT Polyoxyalkylenes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysiloxane-, battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT 771505-05-6P, Dimethoxysilanediol graft polymer with octamethyltetracyclosiloxane, oxirane and tetramethyltetravinylcyclotetrasiloxane, methyl ether
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery **electrolytes** containing; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

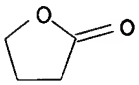
IT 67-68-5, Dimethyl sulfoxide, uses **96-48-0**, γ-**Butyrolactone** 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses 110-71-4 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 646-06-0, 1,3-Dioxolane 7439-89-6D, Iron, salts 7439-96-5D, Manganese, salts 7440-02-0D, Nickel, salts 7440-22-4D, Silver, salts 7440-48-4D, Cobalt, salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc, salts 7440-70-2D, Calcium, salts 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 24991-55-7, Polyethylene glycol dimethyl ether 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6 132843-44-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(battery **electrolytes** containing; crosslinked **polyoxyalkylene**-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT 118529-51-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and polymerization of; crosslinked polyoxyalkylene-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

IT **96-48-0**, γ- **Butyrolactone**
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(battery **electrolytes** containing; crosslinked **polyoxyalkylene**-polysiloxanes for use as nonaq. salt-type **electrolytes** for lithium secondary batteries)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:814519 HCAPLUS
DN 137:327437
TI Secondary polymer lithium battery
IN Nishimura, Naoto; Ui, Kouichi; Mitate, Takehito
PA Sharp Kabushiki Kaisha, Japan
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002084776	A1	20021024	WO 2002-JP3708	20020412
	W: CN, IN, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2002313426	A2	20021025	JP 2001-114743	20010413
	TW 543213	B	20030721	TW 2002-91107452	20020412
PRAI	JP 2001-114743	A	20010413		

AB The battery has a carbonaceous anode, a Li containing metal oxide cathode, and a Li conducting polymer **electrolyte** layer, where the polymer is a (meth)acrylate terminated poly(ethylene oxide) or ethylene oxide-propylene oxide copolymer, prepared by using 2 thermal initiators having different half life temps.

IC ICM H01M010-40
ICS H01M004-58; C08F290-06; C08F299-02; C08F004-38

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)

ST secondary lithium battery polyoxyalkylene **electrolyte** thermal initiator mixt; half life temp initiator lithium battery polymer **electrolyte**

IT Polyethers, uses
RL: DEV (Device component use); USES (Uses)
(hydroxy-containing, acrylate, polymer; polymer **electrolytes** containing polyoxyalkylene (meth)acrylate polymerized by initiators with different half life temps. for secondary lithium batteries)

IT Battery **electrolytes**
(polymer **electrolytes** containing polyoxyalkylene (meth)acrylate

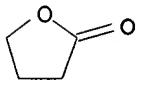
polymerized by initiators with different half life temps. for secondary lithium batteries)

IT 927-07-1, tert-Butylperoxypivalate 3851-87-4, 3,5,5-Trimethylhexanoylperoxide 26748-41-4, tert-Butylperoxyneodecanoate 26748-47-0, α-Cumyl peroxy neo-decanoate 96662-04-3
RL: NUU (Other use, unclassified); USES (Uses)
(mixts. of initiators with different half life temps. for polymer **electrolyte** manufacture for secondary lithium batteries)

IT **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 14283-07-9, Lithium fluoroborate 21324-40-3, Lithium hexafluorophosphate 90076-65-6
RL: DEV (Device component use); USES (Uses)
(polymer **electrolytes** containing **polyoxyalkylene** (meth)acrylate polymerized by initiators with different half life temps. for secondary lithium batteries)

IT **96-48-0**, γ- **Butyrolactone**
RL: DEV (Device component use); USES (Uses)
(polymer **electrolytes** containing **polyoxyalkylene** (meth)acrylate polymerized by initiators with different half life temps. for secondary lithium batteries)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:185833 HCAPLUS
DN 134:223194
TI Ionically conductive polymers containing boron atoms useful for polymer **electrolytes** and electrical devices
IN Nishiura, Masahito; Kono, Michiyuki; Watanabe, Masayoshi
PA Dai-Ichi Kogyo Seiyaku Co., Ltd., Japan
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001018094	A1	20010315	WO 2000-JP5811	20000828
	W: CA, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2001072875	A2	20010321	JP 1999-248887	19990902
	JP 3557959	B2	20040825		
	JP 2001072876	A2	20010321	JP 1999-248888	19990902
	JP 3557960	B2	20040825		
	JP 2001072877	A2	20010321	JP 1999-248889	19990902
	JP 3557961	B2	20040825		
	JP 2001131246	A2	20010515	JP 1999-318000	19991109
	CA 2344204	AA	20010315	CA 2000-2344204	20000828
	EP 1160268	A1	20011205	EP 2000-955080	20000828
	EP 1160268	B1	20040804		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

	EP 1428849	A1	20040616	EP 2004-2946	20000828
	EP 1428849	B1	20060405		
	R: DE, FR, IT				
	EP 1428850	A1	20040616	EP 2004-2947	20000828
	EP 1428850	B1	20050504		
	R: DE, FR, IT				
	US 2004202912	A1	20041014	US 2004-835816	20040430
	US 7045242	B2	20060516		
PRAI	JP 1999-248887	A	19990902		
	JP 1999-248888	A	19990902		
	JP 1999-248889	A	19990902		
	JP 1999-318000	A	19991109		
	EP 2000-955080	A3	20000828		
	WO 2000-JP5811	W	20000828		
	US 2001-787233	B1	20010425		

AB The polymers are of the following types: (1) a dendrimer-like polymer having trivalent B atom at core and wedge point, a heteroatom such as O as linking unit (L), and di- to hexavalent group with mol. weight of ≥150 linking to the B atom via L, (2) a compound obtained by crosslinking of a multiarm polymer of B(XRY)3 type [X = heteroatom; R = divalent group having mol. weight of >150 (e.g., **polyoxyethylene** group); Y = polymerizable functional group], (3) a high-mol. compound bearing B atom preferably on side chain end or main chain end, and (4) high-mol. compound containing tetravalent B. The polymer **electrolytes** with improved charge-carrying ion capacities are obtained by mixing one or more types of the polymers above with an **electrolyte** salt such as a lithium salt and an aprotic solvent, e.g., carbonates, lactones, ether, etc., and can be used in batteries or capacitors. Thus, coupling a diol derived from ethylene oxide ring opening reaction with borane gave a 3-arm polymer, 1 g of which was combined with LiBF4 at 1 mol/kg and 2.3 g γ- **butyrolactone** and cast coated on a glass surface to give a film of polymer **electrolyte.**

IC ICM C08G079-08
ICS H01B001-06; H01M006-18; H01M010-40

CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): **52**, 76

ST boron core dendrimer like conductive polymer **electrolyte**; aprotic solvent polymer **electrolyte** boron contg polymer; battery manuf polymer **electrolyte** boron contg polymer; capacitor manuf polymer **electrolyte** boron contg polymer; polyoxyethylene borane adduct multiarm polymer **electrolyte**; star block borane polyoxyethylene adduct polymer **electrolyte**; starburst borane polyoxyethylene adduct polymer **electrolyte**

IT Polyoxyalkylenes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, boron-containing multiarm or dendritic, crosslinked; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)

IT Polyoxyalkylenes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(boron-containing multiarm or dendritic, crosslinked; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes**

and elec. devices)
IT Capacitors
Secondary batteries
(lithium ion; manufacture of B-containing ionically conductive polymers useful
for polymeric **electrolytes** and elec. devices)
IT Conducting polymers
Polymer **electrolytes**
(manufacture of B-containing ionically conductive polymers useful for polymeric
electrolytes and elec. devices)
IT Dendritic polymers
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric
electrolytes and elec. devices)
IT Boranes
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reaction products with monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
IT 329687-70-9DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
IT 7447-41-8, Lithium chloride, uses 7550-35-8, Lithium bromide
7789-24-4, Lithium fluoride, uses 7791-03-9, Lithium perchlorate
10377-51-2, Lithium iodide 14283-07-9, Lithium tetrafluoroborate (LiBF4)
21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate
90076-65-6 132404-42-3 132843-44-8
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(B-containing multiarm or dendritic polyoxyalkylene polymer complexes; manufacture of B-containing ionically conductive polymers useful for polymeric
electrolytes and elec. devices)
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 110-71-4, 1,2-Dimethoxyethane 126-33-0, Sulfolane 646-06-0, 1,3-Dioxolane
RL: NUU (Other use, unclassified); USES (Uses)
(aprotic solvent; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
IT 329352-15-0DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(comb, dendritic; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
IT 329352-19-4DP, lithium complexes, bromate- or chlorate-containing
329352-20-7DP, lithium complexes, hexafluoroarsenate-containing
329352-21-8DP, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(dendritic, from divergent approach; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)

IT 329352-16-1DP, lithium complexes, anion-containing 329352-17-2DP, lithium complexes, anion-containing 329352-18-3DP, lithium complexes, anion-containing
329352-22-9DP, lithium complexes, tetrafluoroborate-containing
329352-23-0DP, lithium complexes, hexafluorophosphate-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dendritic; manufacture of B-containing ionically conductive polymers useful for
polymeric **electrolytes** and elec. devices)

IT 67-56-1DP, Methanol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing, preparation 100-02-7DP, p-Nitrophenol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 108-86-1DP, Bromobenzene, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 108-95-2DP, Phenol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing, preparation 109-86-4DP, Ethylene glycol monomethyl ether, boron derives., lithium complexes, anion-containing 111-87-5DP, Octanol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 120-80-9DP, Catechol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 461-96-1DP, 3,5-Difluorobromobenzene, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 518-05-8DP, 1,8-Naphthalenedicarboxylic acid, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 1806-29-7DP, Biphenyl-2,2'-diol, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 26570-48-9DP, Polyethylene glycol diacrylate, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 50986-11-3DP, polymer with boron-containing alkenyl-terminated
polyoxyalkylenes, lithium complexes, anion-containing 77716-60-0DP, Polyethylene glycol monovinyl ether, boron derives., lithium complexes, anion-containing 328312-85-2DP, polymer with boron-containing alkenyl-terminated
polyoxyalkylenes, lithium complexes, anion-containing 329687-75-4DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-76-5DP, polymer with boron-containing alkenyl-terminated
polyoxyalkylenes, lithium complexes, anion-containing 329687-77-6DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329687-79-8DP, polymer with boron-containing alkenyl-terminated
polyoxyalkylenes, lithium complexes, anion-containing 329687-80-1DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing 329688-10-0DP, boron derives., lithium complexes, anion-containing 329688-12-2DP, polymer with boron-containing alkenyl-terminated
polyoxyalkylenes, lithium complexes, anion-containing 329688-13-3DP, polymer with boron-containing alkenyl-terminated polyoxyalkylenes, lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric
electrolytes and elec. devices)
IT 75-89-8DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 141-82-2DP, Malonic acid, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 771-61-9DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 920-66-1DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 2378-02-1DP, reaction products with borane and monoalkenyl-terminated polyoxyalkylenes, lithium salts 329358-74-9P 329358-75-0P 329358-76-1P 329687-86-7DP, boron derives., lithium containing 329688-14-4P 329688-15-5P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of B-containing ionically conductive polymers useful for polymeric
electrolytes and elec. devices)
IT 9051-31-4D, Polyethylene glycol monoacrylate homopolymer, lithium complexes, anion-containing
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(multiarm; manufacture of B-containing ionically conductive polymers useful for
polymeric **electrolytes** and elec. devices)
IT 26403-58-7DP, Polyethylene glycol monoacrylate, boron derives., lithium complexes, anion-containing 39420-45-6DP, Polypropylene glycol monomethacrylate, boron derives., lithium complexes, anion-containing 329687-72-1DP, boron derives., lithium complexes, anion-containing 329687-74-3DP, boron derives., lithium complexes, anion-containing
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optionally 3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
IT 329687-81-2DP, boron derives., lithium containing 329687-82-3DP, boron derives., lithium containing 329687-83-4DP, boron derives., lithium containing 329688-16-6DP, boron derives., lithium containing
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optionally 3-arm; manufacture of B-containing ionically conductive polymers useful for polymeric **electrolytes** and elec. devices)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:842414 HCAPLUS
DN 134:18092
TI Production and properties of polyoxyalkylene diacrylate-based polymer **electrolyte** for battery **electrolyte**
IN Nakagawa, Hiroe; Izuchi, Syuichi; Kishi, Takaaki; Watanabe, Toshiyuki
PA Yuasa Corp., Japan
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000072399	A1	20001130	WO 2000-JP3259	20000522
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1199764	A1	20020424	EP 2000-927838	20000522
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	JP 1999-142768	A	19990524		
	JP 1999-326784	A	19991117		
	JP 2000-10295	A	20000117		
	JP 2000-10296	A	20000117		
	WO 2000-JP3259	W	20000522		

AB Title polymer **electrolyte** having a structure in which an organic electrolytic **liquid** is held in an organic polymer, is characterized by the following structures: (i) the backbone of the organic polymer has a crosslinked structure, (ii) the organic polymer has a finely porous structure, and (iii) the organic electrolytic **liquid** is held by the backbone of the organic polymer through swelling and simultaneously held in the fine pores. This polymer **electrolyte** has high ionic conductivity and can retain a stable structure over long.

IC H01M010-40; H01M002-16

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 36, 76

ST polyoxyalkylene acrylate polymer **electrolyte** structure ion cond battery

IT Solvent effect
(on production and properties of polyoxyalkylene diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)

IT Battery **electrolytes**
Ionic conductivity
Polyelectrolytes
Pore
Pore size
Swelling, physical
(production and properties of polyoxyalkylene diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)

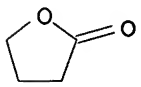
IT 14283-07-9, Lithium tetrafluoroborate
RL: MOA (Modifier or additive use); USES (Uses)
(**electrolyte**; production and properties of polyoxyalkylene diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)

IT 40529-90-6P 57592-67-3P 60651-25-4P 71512-49-7P 80164-51-8P 116321-27-8P 156718-78-4P 262859-71-2P 309252-13-9P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(production and properties of polyoxyalkylene diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)

IT 64-17-5, Ethanol, uses 75-05-8, Acetonitrile, uses **96-48-0**, γ- **Butyrolactone** 616-38-6, Dimethyl carbonate
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; production and properties of **polyoxyalkylene** diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)

IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; production and properties of **polyoxyalkylene**

diacrylate-based polymer **electrolyte** for polymer **electrolyte** battery)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:260911 HCAPLUS
DN 130:314425
TI Polymer **electrolytes** and secondary batteries using them
IN Sakauchi, Hiroshi; Amano, Kosuke; Yagata, Hiroshi; Sato, Masaharu
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11111050	A2	19990423	JP 1997-272561	19971006
	JP 3531439	B2	20040531		
PRAI	JP 1997-272561		19971006		

AB Claimed polymer **electrolytes** comprise polymers having main chains containing conjugated double bonds and side chains containing ion conductive compds. Also claimed are gelled **electrolytes** containing above polymer **electrolytes** and plasticizers. Claimed batteries contain the above **electrolytes.** The polymer **electrolytes** have high ion conductivity and strength.
IC ICM H01B001-12
ICS C08K003-16; C08K003-30; C08K003-32; C08K003-38; C08K005-06; C08K005-10; C08K005-20; C08L101-02; C08L101-12; H01M010-40
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
ST acetylene polyoxyethylene polymer **electrolyte** battery; ionic polymer conductor battery **electrolyte**; plasticizer gelled polymer **electrolyte** battery
IT Battery **electrolytes**
Conducting polymers
Polymer **electrolytes**
(acetylene-polyoxyethylene polymer **electrolytes** for batteries)
IT Secondary batteries
(lithium; acetylene-polyoxyethylene polymer **electrolytes** for batteries)
IT Ionic conductors
(polymeric; acetylene-polyoxyethylene polymer **electrolytes** for batteries)
IT 7439-93-2DP, Lithium, polyoxyethylene-phenylacetylene polymer complexes, uses 223677-77-8DP, lithium complexes
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acetylene-polyoxyethylene polymer **electrolytes** for batteries)

IT **96-48-0**, γ- **Butyrolactone** 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Methyl ethyl carbonate
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(plasticizer; acetylene-**polyoxyethylene** gelled polymer **electrolytes** for batteries)

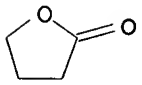
IT 96-49-1, Ethylene carbonate
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(plasticizer; acetylene-polyoxyethylene polymer gelled **electrolytes** for batteries)

IT 223677-80-3P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction of; in preparation of acetylene-polyoxyethylene polymer **electrolytes**)

IT 637-44-5, Phenylpropynoic acid 9004-74-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of; in preparation of acetylene-polyoxyethylene polymer **electrolytes**)

IT **96-48-0**, γ- **Butyrolactone**
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(plasticizer; acetylene-**polyoxyethylene** gelled polymer **electrolytes** for batteries)

RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L25 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:781401 HCAPLUS
DN 130:168955
TI Lithium ion conduction in PEO-salt **electrolytes** gelled with PAN
AU Choi, B. K.; Shin, K. H.; Kim, Y. W.
CS Department of Science Education, Dankook University, Seoul, 140-714, S. Korea
SO Solid State Ionics (1998), 113-115, 123-127
CODEN: SSIOD3; ISSN: 0167-2738
PB Elsevier Science B.V.
DT Journal
LA English
AB Hybrid solid **electrolyte** films consisting of poly(ethylene oxide) (PEO), LiClO4, a mixture of ethylene carbonate (EC) and γ-butyrolactone (BL) and polyacrylonitrile (PAN) were examined in order to obtain the best compromise between high conductivity, homogeneity and dimensional stability. Measurements of elec. conductivity and differential scanning calorimetry have been carried out. When the ratio of LiClO4/(EC/BL) is large, the **electrolyte** films are completely amorphous at room temperature and in the other cases, they are partially crystalline
The materials having higher EC/BL content are more likely to be a

gel-electrolyte than a plasticized PEO-salt **electrolyte.** The Li+ ions in these films seem to migrate primarily through the solvent domains as in the **gel-electrolytes.** The highest room temperature conductivity of 2.0+10-3 S cm-1 is found for a film of 31PEO-9LiClO4-50EC/BL-10PAN. This film has a similar conductivity value as compared with PAN-based **gel electrolytes**, but with a better dimensional stability.

CC 37-5 (Plastics Manufacture and Processing)

ST lithium ionic conduction polyethylene oxide polyacrylonitrile; ethylene carbonate lithium ionic cond **polyoxyethylene**; **butyrolactone** lithium ionic cond **polyoxyethylene**; glass temp polyethylene oxide **electrolyte**

IT Glass transition temperature
Ionic conductivity
Melting point
Recrystallization
(DSC and elec. conductivity measurement of poly(ethylene oxide)-lithium perchlorate-ethylene carbonate-butyrolactone-polyacrylonitrile **electrolyte** film)

IT Polyoxyalkylenes, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(DSC and elec. conductivity measurement of poly(ethylene oxide)-lithium perchlorate-ethylene carbonate-butyrolactone-polyacrylonitrile **electrolyte** film)

IT 7791-03-9, Lithium perchlorate
RL: MOA (Modifier or additive use); USES (Uses)
(DSC and elec. conductivity measurement of poly(ethylene oxide)-lithium perchlorate-ethylene carbonate-butyrolactone-polyacrylonitrile **electrolyte** film)

IT 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate
RL: NUU (Other use, unclassified); USES (Uses)
(DSC and elec. conductivity measurement of poly(ethylene oxide)-lithium perchlorate-ethylene carbonate-butyrolactone-polyacrylonitrile **electrolyte** film)

IT 25014-41-9, Polyacrylonitrile 25322-68-3, Poly(ethylene oxide)
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(DSC and elec. conductivity measurement of poly(ethylene oxide)-lithium perchlorate-ethylene carbonate-butyrolactone-polyacrylonitrile **electrolyte** film)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:764268 HCAPLUS
DN 130:25776
TI Solid **electrolytes** based on polyoxyalkylene tetraether tetra(meth)acrylates
IN Kono, Michiyuki; Ishiko, Eriko
PA Dai-Ichi Kogyo Seiyaku Co., Ltd., Japan
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 880189	A2	19981125	EP 1998-109352	19980522
	EP 880189	A3	20040211		
	EP 880189	B1	20060726		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

	JP 10321040	A2	19981204	JP 1997-133735	19970523
	JP 3104127	B2	20001030		
	CA 2238206	AA	19981123	CA 1998-2238206	19980521
	CA 2238206	C	20040629		
PRAI	JP 1997-133735	A	19970523		

AB A solid **electrolyte** is provided having a reduced amount of non-crosslinked monomers, capable of being cured rapidly to have good film-forming ability, and having high electrocond. The solid **electrolyte** is based on a polyalkoxylated (d.p. ≥35 for each chain) tetraol which has 4 (meth)acrylate terminal groups, a solvent, and an electrolytic salt, and is crosslinked through exposure to active radiation and/or under heat. In an example, a polyethylene glycol diglycerol tetraether tetraacrylate was prepared and then mixed with propylene carbonate and LiClO4 and photopolymn. catalyst and crosslinked by UV to form a film of solid **electrolyte.**

IC ICM H01M006-18
ICS G02F001-15; C08G065-32; C08G065-26

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, **52**, 76

ST polyoxyalkylene acrylate lithium complex photocrosslinked polyelectrolyte

IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(acrylate-terminated; in preparation of solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)

IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cyclic; solvents in solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)

IT Crosslinking
(photochem.; in preparation of solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)

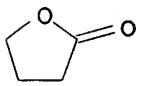
IT Solid **electrolytes**
(preparation of solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)

IT Ethers, uses
Lactones
RL: NUU (Other use, unclassified); USES (Uses)
(solvents in solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)

IT 7439-93-2DP, Lithium, complexes with polyoxyalkylene tetraether tetra(meth)acrylates, preparation 216503-24-1DP, lithium complexes 216503-26-3DP, lithium complexes 216503-28-5DP, lithium complexes 216503-30-9DP, lithium complexes 216530-19-7DP, lithium complexes 216530-20-0DP, lithium complexes 216530-21-1DP, lithium complexes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked; solid **electrolytes** based on)

IT 216503-24-1P, Ethylene oxide-propylene oxide copolymer diglycerol tetraether tetraacrylate 216503-26-3P, Ethylene oxide-propylene oxide block copolymer pentaerythritol tetraether tetraacrylate 216503-28-5P, Butylene oxide-ethylene oxide copolymer diglycerol tetraether tetraacrylate 216503-30-9P, Butylene oxide-ethylene oxide copolymer diglycerol tetraether tetramethacrylate 216530-19-7P 216530-20-0P 216530-21-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(Reactant or reagent)
(for solid **electrolytes** based on lithium complexes of crosslinked polyoxyalkylene tetraether tetra(meth)acrylates)
IT 67-68-5, Dimethyl sulfoxide, uses 68-12-2, Dimethylformamide, uses **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 110-71-4, 1,2-Dimethoxyethane 126-33-0, Sulfolane 126-33-0D, Sulfolane, derivs. 19836-78-3
RL: NUU (Other use, unclassified); USES (Uses)
(solvents in solid **electrolytes** based on lithium complexes of crosslinked **polyoxyalkylene** tetraether tetra(meth)acrylates)
IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(solvents in solid **electrolytes** based on lithium complexes of crosslinked **polyoxyalkylene** tetraether tetra(meth)acrylates)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L25 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:600041 HCAPLUS
DN 129:246342
TI Styrene-based block-graft copolymers, self-crosslinkable-type solid **electrolytes** with improved mechanical strength, and their manufacture
IN Hirahara, Kazuhiro; Nakanishi, Itaru; Isono, Yoshinobu; Takano, Atsushi
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10245427	A2	19980914	JP 1997-65285	19970304
	JP 3396390	B2	20030414		
	US 6025437	A	20000215	US 1998-33731	19980303
PRAI	JP 1997-65285	A	19970304		

AB Title solid **electrolytes**, useful for battery **electrolytes**, are manufactured by irradiating block-graft copolymers (d.p. ≥210) consisting of (A) CH2CR1[1,4-C6H4O(CH2CHR2O)nR3] blocks [d.p. ≥10; R1 = H, Me, Et; R2 = H, Me; R3 = alkyl, aryl, acyl, silyl, cyanoalkyl; n = 1-100; mol. weight of graft chains (CH2CHR2O)nR3 = 45-4400] and (B) CH2CR4[1,4-C6H4(CH2)nCH:CH2] blocks (d.p. ≥200; R4 = H, Me, Et; n = 2, 3) at A:B 1:20-20:1 with high-energy beam for crosslinking and mixing with nonaq. electrolytic solns. Thus, butenylstyrene-tert-butoxystyrene block copolymer was hydrolyzed, treated with ethylene oxide, irradiated with 10 Mrad electron beam, and mixed with polyethylene glycol di-Me ether, diethylene glycol di-Me ether, and LiPF6 to give an **electrolyte** showing high elec. conductivity at high temperature
IC ICM C08F297-02
ICS C08F008-00; C08L053-00; H01B001-12; H01M006-18; H01M010-40
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37, 52

ST styrene polyoxyalkylene graft block solid **electrolyte**; butenyl styrene polyoxyalkylene electron beam crosslinking; battery **electrolyte** styrene polyoxyalkylene graft block

IT Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(graft-block; polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT Battery **electrolytes**
Solid **electrolytes**
(polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT Crosslinking
(radiochem.; polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT 75-21-8DP, Ethylene oxide, reaction products with hydrolyzed butenyl-butoxystyrene block copolymer 213248-66-9DP, hydrolyzed, reaction products with ethylene oxide
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

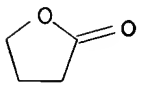
IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6
RL: TEM (Technical or engineered material use); USES (Uses)
(polyoxyalkylene-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT 75-05-8, Acetonitrile, uses 96-47-9, 2-Methyltetrahydrofuran **96-48-0**, γ- **Butyrolactone** 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses 110-71-4, 1,2-Dimethoxyethane 111-46-6, Diethylene glycol, uses 111-96-6, Diethylene glycol dimethyl ether 112-36-7, Diethylene glycol diethyl ether 646-06-0, Dioxolane 1679-47-6, 2-Methyl-γ- **butyrolactone** 24991-55-7, Polyethylene glycol dimethyl ether 25322-68-3, Polyethylene glycol
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; **polyoxyalkylene**-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

IT **96-48-0**, γ- **Butyrolactone**
RL: NUU (Other use, unclassified); USES (Uses)
(solvents; **polyoxyalkylene**-containing styrene block-graft copolymers for self-crosslinkable-type solid **electrolytes**)

RN 96-48-0 HCAPLUS

CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L25 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:135022 HCAPLUS

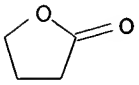
DN 128:271140
TI Diffusion, conductivity and DSC studies of a polymer **gel electrolyte** composed of cross-linked PEO, γ-butyrolactone and LiBF4
AU Hayamizu, Kikuko; Aihara, Yuichi; Arai, Shigemasa; Price, William S.
CS National Institute of Materials and Chemical Research, 1-1 Higashi, Tsukuba, 305, Japan
SO Solid State Ionics (1998), 107(1,2), 1-12
CODEN: SSIOD3; ISSN: 0167-2738
PB Elsevier Science B.V.
DT Journal
LA English
AB The **gel electrolyte** system composed of γ-butyrolactone (GBL), LiBF4, and crosslinked acrylated poly(ethylene oxide) (PEO) with a mol. weight of 4000 (PEO4) was studied using the pulsed field gradient (PFG) NMR method to measure the diffusion coeffs. The NMR spin-lattice relaxation times, ionic conductivities and thermal behavior were also measured. Seven reference samples were also prepared pure GBL (sample A), 0.5, 1 and 1.5 M LiBF4 in GBL (i.e., solution **electrolyte**; samples B-D), 20 weight% PEO4 in GBL (sample E), 1 M LiBF4 plus 20 weight% PEO4 in GBL (sample F) and a **gel** without the salt (sample G), in addition to three **gel electrolyte** samples containing 0.5, 1, and 1.5 M concns. of LiBF4 in GBL with 20 weight% crosslinked PEO4 (samples H-J). Importantly, using 1H, 7Li, and 19F PFG NMR the diffusion coeffs. of all the species present were able to be measured. The diffusion coeffs. were sensitive to the salt concentration and the crosslinking of the polymer. The Li and BF4 ions are solvated with GBL even in the **gel** state. The deviation of the measured conductivities from the values calculated using the Nernst-Einstein equation reflects the effects of ion association It was observed that at least, at low salt concns., the polymer aids in the dissociation of the salt. By considering all of the exptl. data obtained, we show that in the **gel** system the BF4 ions exist predominantly in the solvent while the motion of the Li ions, although solvated in GBL, is strongly associated with the polymer. From the combination of the conductivity and diffusion measurements we were able to obtain values for the dissociation consts. for the salt dissolved in the GBL and in the **gel** samples.
CC 37-5 (Plastics Manufacture and Processing)
ST **polyoxyethylene butyrolactone** lithium tetrafluoroborate property; diffusion **polyoxyethylene butyrolactone** lithium tetrafluoroborate; ionic cond **polyoxyethylene butyrolactone** lithium tetrafluoroborate
IT Diffusion
Glass transition temperature
Ionic conductivity
Spin-lattice relaxation
(diffusion and conductivity and DSC studies of crosslinked poly(ethylene oxide)-butyrolactone-LiBF4 **gel electrolyte**)
IT Polyoxyalkylenes, properties
RL: PRP (Properties)
(diffusion and conductivity and DSC studies of crosslinked poly(ethylene oxide)-butyrolactone-LiBF4 **gel electrolyte**)
IT 96-48-0, γ-Butyrolactone 14283-07-9, Lithium tetrafluoroborate 25322-68-3, Poly(ethylene oxide)
RL: PRP (Properties)
(diffusion and conductivity and DSC studies of crosslinked poly(ethylene oxide)-butyrolactone-LiBF4 **gel electrolyte**)
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:280935 HCAPLUS
DN 126:280248
TI Lithium batteries with gelled organic **electrolytes**
IN Aihara, Juichi
PA Yuasa Battery Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09063647	A2	19970307	JP 1995-221605	19950830
PRAI	JP 1995-221605		19950830		

AB The batteries a gelled organic **electrolyte**, containing a polymer and an **electrolyte** solution, formed by crosslinking a monomer; where the monomer has an ethylene oxide and/or propylene oxide skeleton, the **electrolyte** solution has a solvent containing a cyclic ester or cyclic carbonate ester and Li salt concentration ≥1.2M, and the **electrolyte** has a solvent/(solvent + polymer) volume ratio 0.15-0.4. These batteries have good thermodn. stability and low temperature performance.
IC ICM H01M010-40
ICS H01M010-40; H01M006-18; H01M006-22
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
ST lithium battery crosslinked polyoxyalkylene gelled **electrolyte**
IT Battery **electrolytes**
(gelled lithium salt **electrolytes** containing cyclic ester solvent and crosslinked polyoxyalkylene for lithium batteries)
IT 79-10-7D, Acrylic acid, esters with ethylene oxide-propylene oxide copolymer triol derivs., crosslinked **96-48-0**, γ-**Butyrolactone** 9003-11-6D, triol derivs., acrylates, crosslinked 90076-65-6
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(gelled lithium salt **electrolytes** containing cyclic ester solvent and crosslinked **polyoxyalkylene** for lithium batteries)
IT **96-48-0**, γ- **Butyrolactone**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(gelled lithium salt **electrolytes** containing cyclic ester solvent and crosslinked **polyoxyalkylene** for lithium batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)

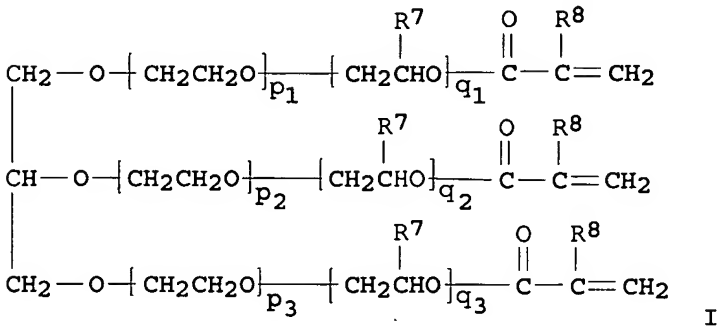


L25 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:128279 HCAPLUS
DN 124:181124
TI Batteries containing improved ion-conductive polymer **electrolytes**
IN Takeda, Kazunari; Kuryama, Kazuya; Inamasu, Tokuo

PA Yuasa Battery Co., Ltd., Japan; Yuasa Corp.
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07302615	A2	19951114	JP 1994-96243	19940510
JP 3503653	B2	20040308		
PRAI JP 1994-96243		19940510		

GI

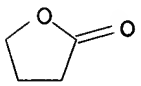


I

AB The batteries use ion conductive polymer **electrolytes** containing ≥1 ionic compds.; polymers selected from R1(CH2CH2O)m[CH2C(R2)HO]nC(O)C(R3):CH2 (R1-3 = H, C≥1 lower alkyl; m ≥1; n ≥1; n/m =0-5), CH2:C(R4)C(O)(CH2CH2O)s[CH2C(R5)HO]tC(O)C(R6):CH2 (R4-6 = H, C≥1 lower alkyl; s ≥3; t ≥0; t/s =0-5), and I (R7-8 = H, C≥1 lower alkyl; p1-3 ≥3; q1-3 ≥0; q1/p1 =0-5; q2/p2 =0-5; q3/p3 =0-5; p1+q1 ≥10; p2+q2 ≥10; p3+q3 ≥10); an organic solvent of the ionic compds.; and polyolefin powder or fibers. The battery electrodes also contain the **electrolyte.** The batteries have good leakage prevention.

IC ICM H01M010-40
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST battery ion conductive polymer **electrolyte**; polyoxyethylene acrylate ion conductive **electrolyte** battery; polyolefin battery ion conductive polymer
IT Polyolefin fibers
RL: DEV (Device component use); USES (Uses)
(compns. of ion conductive polyoxyethylene acrylate **electrolytes** for batteries)
IT Battery **electrolytes**
(compns. of ion conductive polyoxyethylene acrylate **electrolytes** for secondary lithium batteries)
IT Cathodes
(battery, lithium cobaltate cathodes containing ion conductive polyoxyethylene acrylate **electrolytes**)
IT Anodes
(battery, lithium intercalating carbon anodes containing ion conductive

polyoxyethylene acrylate **electrolytes**)
IT Polyolefin fibers
RL: DEV (Device component use); USES (Uses)
(ethylene, compns. of ion conductive polyoxyethylene acrylate **electrolytes** for batteries)
IT Alkenes, uses
RL: DEV (Device component use); USES (Uses)
(polymers, compns. of ion conductive polyoxyethylene acrylate **electrolytes** for batteries)
IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(anodes containing ion conductive polyoxyethylene acrylate **electrolytes** for secondary lithium batteries)
IT 12190-79-3
RL: DEV (Device component use); USES (Uses)
(cathode; cathodes containing ion conductive polyoxyethylene acrylate **electrolytes** for secondary lithium batteries)
IT **96-48-0** 110-71-4, 1,2-Dimethoxyethane 9002-88-4, Flo-Beads LE 1080 14283-07-9, Lithium tetrafluoroborate 26570-48-9 32171-39-4 111804-95-6
RL: DEV (Device component use); USES (Uses)
(compns. of ion conductive **polyoxyethylene** acrylate **electrolytes** for secondary lithium batteries)
IT **96-48-0**
RL: DEV (Device component use); USES (Uses)
(compns. of ion conductive **polyoxyethylene** acrylate **electrolytes** for secondary lithium batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



L25 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:555874 HCAPLUS
DN 113:155874
TI Preparation of ion-conductive solid **electrolyte** and its use in lithium batteries
IN Takahashi, Toru; Shimizu, Ryuichi; Suehiro, Tsutomu; Ashitaka, Hidetomo
PA Japan
SO U.S., 7 pp. Cont.-in-part of U.S. Ser. No. 106,641.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4908283	A	19900313	US 1989-342122	19890424
	JP 63094501	A2	19880425	JP 1986-239041	19861009
	JP 03073081	B4	19911120		
	JP 63094563	A2	19880425	JP 1986-239042	19861009
	JP 63135477	A2	19880607	JP 1986-281148	19861126
	JP 06096699	B4	19941130		
	JP 63181259	A2	19880726	JP 1987-12273	19870123
	JP 05063905	B4	19930913		
PRAI	JP 1986-239041	A	19861009		

JP 1986-239042 A 19861009
JP 1986-281148 A 19861126
JP 1987-12273 A 19870123
US 1987-106641 A2 19871008

AB The **electrolyte** is prepared by curing a composition of an acryloyl-terminated polyoxyalkylene of mol. weight 200-3000, 0.05-50 mol% inorg. salt, and 200 weight% organic solvent by irradiation with active rays (high-pressure Hg lamp). The acryloyl-terminated polyoxyalkene comprises CH(R1)CRCO2 and (CH2CHR2O)n, where R and R2 are H or C1-6 alkyl, R1 is H or an aromatic group, and n is an integer of 1-30. The salt is a Li, Na, K, Cs, Ag, Cu, or Mg salt and the solvent is selected from propylene carbonate, butyrolactone, ethylene carbonate, THF, MeCN, DME, DMSO, dioxolane, and sulfolane. A solid-**electrolyte** battery uses a Li or Li alloy anode and a cathode of a cured product of a cathode active material (MnO2) and the **electrolyte.** The ion conductivities of the LiClO4-containing invention **electrolyte** films at .apprx.20° were 5.9 + 10-5 to 1.1 + 10-7 S/cm.

IC H01M006-18; H01M010-26

INCL 429192000

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 76

ST polyoxyalkylene acrylate battery **electrolyte**; lithium manganese dioxide battery **electrolyte**; manganese dioxide polyoxyalkylene acrylate cathode; elec cond polyoxyalkylene acrylate **electrolyte** ; lithium perchlorate polyoxyalkylene acrylate **electrolyte**

IT Polyoxyalkylenes, compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(acrylates, polymers, **electrolytes** containing organic solvents and lithium salts and, for batteries)

IT Batteries, primary
Batteries, secondary
(lithium-manganese dioxide, **electrolytes** containing acryloyl-terminated polyoxyalkylene and lithium salt and organic solvent for)

IT Cathodes
(battery, manganese dioxide, containing acryloyl-terminated polyoxyalkylene and lithium salt and organic solvents)

IT Electric conductivity and conduction
(ionic, of **electrolytes** contg acryloyl-terminated polyoxyalkylene amd lithium salts and organic solvents, for batteries)

IT 1313-13-9, Manganese dioxide, uses and miscellaneous
RL: DEV (Device component use); USES (Uses)
(cathodes, containing acryloyl-terminated polyoxyalkylene-lithium salt **electrolytes**, for batteries)

IT 67-68-5, DMSO, uses and miscellaneous 75-05-8, Acetonitrile, uses and miscellaneous **96-48-0**, γ- **Butyrolactone**
96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate
RL: USES (Uses)
(**electrolytes** containing acryloyl-terminated **polyoxyalkylene** and inorg. compds. and, for batteries)

IT 109-99-9, THF, uses and miscellaneous 110-71-4 126-33-0, Sulfolane 646-06-0, Dioxolane
RL: TEM (Technical or engineered material use); USES (Uses)
(**electrolytes** containing acryloyl-terminated polyoxyalkylene and inorg. compds. and, for batteries)

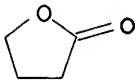
IT 7791-03-9
RL: TEM (Technical or engineered material use); USES (Uses)
(**electrolytes** containing acryloyl-terminated polyoxyalkylene and organic solvents and, for batteries)

IT 7439-93-2D, Lithium, acryloyl-terminated polyoxyalkylene complexes
7439-95-4D, Magnesium, acryloyl-terminated polyoxyalkylene complexes
7440-09-7D, Potassium, acryloyl-terminated polyoxyalkylene complexes
7440-22-4D, Silver, acryloyl-terminated polyoxyalkylene complexes
7440-23-5D, Sodium, acryloyl-terminated polyoxyalkylene complexes
7440-46-2D, Cesium, acryloyl-terminated polyoxyalkylene complexes
7440-50-8D, Copper, acryloyl-terminated polyoxyalkylene complexes
129845-23-4D, lithium complexes
RL: TEM (Technical or engineered material use); USES (Uses)
(**electrolytes**, containing organic solvents, for batteries)

IT **96-48-0**, γ- **Butyrolactone**
RL: USES (Uses)
(**electrolytes** containing acryloyl-terminated **polyoxyalkylene** and inorg. compds. and, for batteries)

RN 96-48-0 HCAPLUS

CN 2(3H)-Furanone, dihydro- (8CI, 9CI) (CA INDEX NAME)



=>